

### **Abstract of the Disclosure**

The current invention relates to methods of producing a surface with enhanced cell-adhesive properties comprising treating a pre-formed surface such that at least one intermediate reactive group is exposed on the surface. The exposed intermediate reactive group is then reacted to create a self-assembled monolayer, comprising at least one reactive group. The self-assembled monolayer is created non-mechanically. The reactive group is then coupled to at least one cell-adhesive molecule. The current invention also relates to cell culture devices comprising at least one oxygen-sensing compound and a cell-adhesive molecule.